

In re: Braun et al.  
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**REMARKS**

Attached hereto are a Substitute Specification, Claims and Abstract of the Invention. Also attached is a marked-up version of the changes made to the Specification, Claims, and Abstract by the current amendment. No new matter has been added. The first page of the attached pages is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

The Examiner is invited to telephone the undersigned, Applicant's Attorney of Record, to facilitate advancement of the present application.

Respectfully submitted,

Braun et al.

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SUBSTITUTE SPECIFICATION, CLAIMS  
AND ABSTRACT

~~Flange connection between a longitudinal beam of a vehicle and a carrier element that can be mounted to it~~ FLANGE CONNECTION BETWEEN A LONGITUDINAL BEAM OF A VEHICLE AND A CARRIER ELEMENT THAT CAN BE MOUNTED TO IT

TECHNICAL FIELD OF THE INVENTION

[001] The invention relates to a flange connection and more particularly, to a flange connection between a longitudinal beam of a vehicle and a carrier element that can be mounted to it ~~as set forth in the main subject of patent claim 1.~~

DESCRIPTION OF THE RELATED ART

[002] DE 198 54 050 A1 discloses ~~Such a flange connection, is known from the disclosure document DE 198 54 050 A1. A~~ threaded bolt, exhibiting nuts that rest on the inner sides of the flange plate and the counter flange plate. The exhibiting nuts ~~and that~~ are screwed onto both sides of said bolt, and penetrates the flange plate and the counter flange plate. ~~The purpose of this known threaded connection is that~~ separates the connected components ~~can be separated from one another, even if, in particular, the nut that is located in the driving direction in the front should~~ is no longer be accessible due to damage.

[003] There are ~~Other~~ known connections of vehicle components that can be separated ~~are embodiments that~~ do not include flange

plates. For example, ~~patent document~~ EP 0 721 878 B1 describes an assembly connection that exhibits connection profiles that engage ~~in one another~~ each other in a hook-like manner and with a clamping screw securing the positive fit.

#### SUMMARY OF THE INVENTION

[004] It is ~~the objective~~ an aspect of the present invention to provide a flange connection ~~of the kind mentioned above~~, wherein the flange plate and the counter flange plate can be held tight to one another via positively engaging connection elements that can be separated from one another.

[005] This one aspect of the present invention is achieved with a flange connection between a face end of a longitudinal beam of a vehicle as a first component, and a carrier element mounted to it in its longitudinal direction, as a second component, whereby a flange plate having an outer side is operatively mounted to either the first or second component and a counter flange plate having an outer side operatively mounted to the other of the first or second component, and wherein the outer side of the flange plate and the outer side of the counter flange plate are held tight and in contact to each other, said flange connection comprising a connection bolt having a wedge slope, and wherein a first end of the connection bolt protrudes from the outer side of the flange plate, wherein the wedge slope extends in the cross

direction of said connection bolt from an upper edge at an upper side of the connection bolt in a direction toward the flange plate, such that the counter flange plate exhibits, at the flange plate, a feed-through opening for receiving the connection bolt, and wherein a locking component is placed on an inner side of the counter flange plate, wherein in a connected position, said locking component having a wedge surface surrounds the connection bolt and said wedge surface is received by the wedge slope; and a clamping screw that can be tightened against the connection bolt.

~~This object is achieved with the features of the main subject of claim 1 through its characteristic features.~~

**[006]** Another aspect of the present~~Significant for the~~ invention is that ~~the holding the~~ flange plate and the counter flange plate are held tight to one another ~~is accomplished using~~ a wedge connection that includes a movable element, and the locking component, which moves in one plane that is parallel to the flange plane for the purpose of tightening and loosening the flange connection. The required actuation of the clamping screw, which is tightened against the connection bolt, can be accomplished from a direction that is not the same as the longitudinal direction of the longitudinal beam of the vehicle and the carrier element that ~~can~~may be mounted to it, which improves the accessibility to the clamping screw even when in

~~ease of damaged~~ condition. In addition, the movability of the flange plate and the counter flange plate with respect to each other~~one another~~ can be easily accomplished ~~easily~~ by making the play, around the connection bolt in the feed-through opening of the counter flange plate, sufficiently large and by providing ~~for~~ the locking component with sufficient play for moving at the inner side of the counter flange plate. This provides ~~for a~~ tolerance balance for the vehicle components ~~that are~~ arranged at the carrier element through an adjustment relative to the longitudinal beam of the vehicle in the cross direction of the vehicle, the y-direction as well as in the height direction of the vehicle, the z-direction.

[007] Advantageous design features of the invention are described herein~~found in the sub-claims~~.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[008] These and other features and advantages of the present invention will be better understood by reading the following detailed description, taken together with the drawing wherein:~~Below, the invention will be described in greater detail based on a drawing of an exemplary embodiment, where~~

[0009] Fig. 1 is a perspective exploded view of ~~the elements of~~  
a flange connection according to the present invention ~~of the kind~~  
~~mentioned above;~~

[0010] Fig. 2 is a perspective, sectional view of the flange  
connection according to Fig. ure 1 in ~~its~~ a connected position;

[0011] Fig. 3 is a longitudinal sectional view through the  
flange connection prior to the flange plate and the counter  
flange plate being joined together according to the present  
invention;

[0012] Fig. 4 is a longitudinal sectional view through the  
flange connection in ~~its~~ the connected position according to the  
present invention;

[0013] Fig. 5 is perspective view of the counter flange plate  
~~at the respective component and of the locking component in the~~  
~~position immediately prior to assembly~~ passing through the feed-  
through opening of the counter flange plate according to the  
present invention; ~~and~~

[0014] Figs. 6 ~~and 7~~ are a longitudinal sections view through  
the counter flange plate and the component according to Fig. 5  
~~one time in a partially passed through position and the other~~

~~time with the locking component having transitioned to the end position.~~

[0015] Fig. 7 is a longitudinal section view through the counter flange plate and the component according to Fig. 5 with the locking component having transitioned to an end position.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] ~~In detail,~~ Fig. 1 shows a section of a vehicle component 1, which is ~~the~~ a front end of a longitudinal beam of the vehicle. A second component 2, which is a carrier element for vehicle attachments, ~~can be~~ operatively mounted ~~onto~~ component 1 in the extension of its longitudinal direction and which, in a preferred embodiment, constitutes a crash box. ~~At one of these two components, here at component 1, a~~ flange plate 3 is operatively mounted to ~~a~~ placed at the face side of the component 1. ~~, and in the same manner~~ Similarly, a fixed mounted counter flange plate 4 ~~can be~~ is found at or operatively mounted to ~~the~~ a rear face side of the second component 2. The flange plate 3 and counter flange plate 4 can be held tight to one another for the purpose of connecting the two components 1 and 2, whereby ~~the~~ an outer side 5 of the flange plate 3 rests on ~~the~~ an outer side 6 of the counter flange plate 4. The connected position of the entire flange connection ~~can be seen in~~ is shown in Figs. ~~ures~~ 2 and 4.

[0017] A connection bolt 7 ~~that~~ is positively connected to flange plate 3 and protrudes from the outer side 5 of the flange plate 3 of the component 1. ~~It is expedient for~~In the preferred embodiment, the connection bolt 7 ~~to be~~is positioned centrally at the flange plate 3, ~~and for it to be~~is surrounded by a bead 26 that is embossed from the outer side 5 of the flange plate 3 and that allows ~~in a very limited manner~~ minimal longitudinal adjustment of the connection bolt 7 relative to the flange plate 3. ~~Essentially, however, t~~The connection bolt 7 is with it~~has a~~ longitudinal direction oriented orthogonal to the plane of the flange plate 3.

[0018] ~~Inherently, t~~The connection bolt 7 may~~ean~~ have any kind of cross-section, even a round cross-section. ~~For the exemplary~~In the preferred embodiment, the connection bolt 7 has a rectangular or square cross-section, which, among other things, provides for a large-area support slope 14 that stretches or extends across the entire bolt cross-section at the front, free end 11 of the connection bolt 7. ~~Near~~Proximate the flange plate 3, a transverse groove 8 is molded into the connection bolt 7, essentially perpendicular to its longitudinal direction, and stretches or extends, therefore, in the direction of a radial plane of the connection bolt 7. The transverse groove 8 exhibits an upper edge 10 located at the outer side of the connection bolt 7 and



running along one of the straight rectangular or square sides of the bolt cross-section.

[0019] ~~Of particular significance is t~~The flank of the transverse groove 8 that is farther away from the flange plate 3 and forms a wedge slope 9. The wedge slope 9 slants from the upper edge 10 of the transverse groove 8 that is oriented in the direction of the free end 11 of the connection bolt 7 towards the groove root in the direction of the flange plate 3 or away from the free end 11 of the connection bolt 7. On the side of the connection bolt 7 that is located opposite the transverse groove 8, a plane support area 22 is formed due to the rectangular or square cross-section. The function of said plane support area is discussed herein~~will be covered later.~~

[0020] ~~As Figures 2 and 4 illustrate, i~~In the connected position of the flange connection, the connection bolt 7 at the flange plate 3 ~~has passed~~ through the counter flange plate 4 of the component 2 as shown in Figs. 2 and 4. For this purpose, a feed-through opening 12 is provided in the counter flange plate 4, ~~which can be recognized particularly well~~as shown in Fig. 5. Although the feed-through opening 12 in the counter flange plate 4 has a basic shape that is adapted to the cross-sectional shape of the connection bolt 7, ~~one can recognize, particularly in Fig. 4, however, that~~ the width of the feed-through opening 12 is

greater than ~~would be~~ required for the passage of the connection bolt 7 as shown in Fig. 4. ~~, such that with~~ In that way, the counter flange plate 4 restsing on the flange plate 3, and said counter flange plate 4 can ~~be moved~~ in relation to the flange plate 3 in all radial directions of the connection bolt 7 by a specified play, which will not be obstructed as long as the connection bolt 7 does not strike the edge of the feed-through opening 12 in the counter flange plate 4. If the outer side 5 of the flange plate 3 rests ~~with its outer side 5~~ on the outer side 6 of counter flange plate 4, the transverse groove 8 at the connection bolt 7 will be located with its wedge slope 9 in front of the inner side 13 of the counter flange plate 4, whereby the wedge slope 9 will be at a distance from the inner side 13 of the counter flange plate 4, ~~as can be seen~~ shown in Fig. 4.

**[0021]**    Securing the flange connection in the connected position is carried out via a locking element 15 that interacts with the connection bolt 7. ~~As can be seen, particularly in Fig. 1, t~~ The locking component 15 is a ring-shaped object and ~~in fact a closed~~ ring in the shape of a rectangle or square, which features ring sections 16 that run in a straight direction as shown in Fig. 1. ~~As can be seen in Fig. 2, in the connected position of~~ shows the flange connection in the connected position, wherein the ring-shaped locking component 15 surrounds the connection bolt 7 that protrudes through the counter flange plate 4, which requires that

the locking component 15 be brought to the inner side 13 of the counter flange plate 4. ~~It is understood that t~~The ring opening 31 of the locking component 15 must be sufficiently large for the connection bolt 7 to pass through.

[0022] At the straight ring section 16 of the locking component 15 that rests, in the locked position, at that side of the connection bolt 7, where its transverse groove 8 is located, a bridge 17 is formed longitudinally on the inner side, and a wedge surface 18 is formed there. The wedge surface 18 is located at that side of the bridge 17 that, in the connected position of the wedge slope 9, is facing the transverse groove 8 at the connection bolt 7; furthermore, the slope angle of the wedge surface 18 corresponds to this wedge slope 9. In the connected position, the locking component 15, ~~which~~ is held loosely at the inner side 13 of the counter flange plate 4, with the bridge 17 and engages with the transverse groove 8 of the connection bolt 7 at the flange plate 3 ~~in~~such that the bridge 17 dips into the transverse groove 8, whereby the wedge surface 18 of the locking component 15 and the wedge slope 9 at the connection bolt 7 come to rest against each other. Due to the wedge effect, a force acts in the axial direction of the connection bolt 7 upon the locking component 15, whereby the contact side 23 of the locking component 15 comes ~~with its one side, the contact side 23,~~ into solid contact with the inner side 13 of the counter flange plate

4. Conversely, due to the wedge effect, an axial tensile force acts upon the connection bolt 7, thereby pulling the flange plate 3 against the counter flange plate 4. As Fig. 4 illustrates, the depth of the transverse groove 8 at the connection bolt 7, and thus the engagement length of its wedge slope 9, on the one hand, as well as the engagement length of the wedge surface 18 at the bridge 17 of the locking component 15, on the other hand, are dimensioned sufficiently, such that at the intended tight contact of the flange plate 3 with the counter flange plate 4, and the free edge of bridge 17 of the locking component 15 does not come to rest at the root of the transverse groove 8 of the connection bolt 7.

**[0023]** A clamping screw 21 is provided at the locking component 15 so that in the engagement position of bridge 17 at the locking component 15 with the transverse groove 8 of the locking bolt 7, a tight contact can be provided through additional wedging. This clamping screw 21 is situated in a threaded hole 20, which is located in a console 19 at the locking component 15. The console 19 is placed at the side of the locking component that is located opposite of the bridge 17 and protrudes at the opposite side from of the contact side 23 of the is ring-shaped object. As ~~is~~ apparent from shown in Figs. 2 and 4, in the locked position, the clamping screw 21 rests at the contact surface 22 of the connection bolt 7, ~~+~~ thus, tightening the tension screw 21 against

the connection bolt 7 will pull the locking component 15 with its bridge 17 into the transverse groove 8 at the connection bolt 7, ~~which effects that~~ wherein the flange plate 3 and the counter flange plate 4 are held together tightly due to the wedge effect.

[0024] An adjustment of the component 2 in relation to the component 1 can be carried out in the direction of the flange plane, before the tensioning is so strong that the flange plate 3 and the counter flange plate 4 are friction-interlocked. Not only can the connection bolt 7 be moved inside the feed-through opening 12 of the counter flange plate 4, but also, the locking component too is initially held loosely to the inner side 13 of the counter flange plate 4. This is facilitated by support lugs 24 that follow the side edges of the feed-through opening 12. ~~and that~~ The support lugs 24 are shaped from the piece of material that is released when stamping the feed-through opening 12 into the counter flange plate 4. The support lugs 24 protrude beyond the inner side 13 of the counter flange plate 4, and stretch towards it in a perpendicular direction. At their free ends, they feature angled bars that reach behind the locking component 15, which is located at the inner side 13 of the counter flange plate 4. Using these bars 25, the locking component 15 is held sufficiently loose, such that it can be moved parallel to the plane of the inner side 13 of the counter flange plate 4, as long as ~~as has been mentioned~~ the tight contact caused through the

locking component 15 is not so strong that it inhibits such a movement.

[0025] ~~In Figures 3 and 4, one can recognize just as in Fig. 1,~~  
~~t~~The bead 26 ~~that~~ is embossed into the flange plate 3 and ~~that~~  
surrounds the connection bolt 7 as shown in Figs. 1, 3 and 4.  
Because of ~~the~~is bead 26, the flange plate 3 has a mounting area  
28 for the connection bolt 7, with the mounting area protruding  
beyond the inner side 30 of the flange plate 3. In addition, ~~one~~  
~~can see in Figures 3 and 4 as well as in Figures 6 and 7~~ a feed-  
through opening 29 ~~that~~ is located at component 2 and ~~that~~ is  
provideds for the attachment of the clamping screw 21 as shown in  
Figs. 3, 4, 6 and 7. In the connected position, ~~t~~The clamping  
screw 21 is located in the radial direction to the connection  
bolt 7, ~~as far as the connected position of the flange~~  
~~connection is concerned, and, preferably, it ideally protrudes~~  
through the feed-through opening 29, in order to ~~be able to~~  
actuate it from the outer side of component 2. In this manner,  
not only holding together but also loosening of the two  
components 1 and 2 from one another is possible through access  
from the side. This is particularly advantageous for the  
component 2, which is designed as a crash box, should it ~~be~~  
~~deformed due to~~ in a head-on collision of the vehicle.

[0026] Figs. ~~ures 5--to-7~~ show ~~clearly~~ the feature that the locking component 15 ~~can be~~is inserted from the outer side 6 of the counter flange plate 4 through the feed-through opening 12 into the inner side of component 2, allowing component 2 to have a closed design with the exception of the feed-through opening 29. In the width direction, the feed-through opening 12 ~~exhibits~~has a width that is slightly greater than the outer width of the locking component 15. On the other hand, the height of the feed-through opening 12 is smaller than the overall height of the locking component 15. ~~for this reason~~Thus, in the connected position, the locking component 15 ~~can~~rests on the inner side 14 of the counter flange plate 4 with its upper and lower ring sections 16. ~~As~~

[0027] Figs. ~~ures~~ 5 and 6 show ~~clearly~~, the locking component 15 ~~is~~ inserted in a slanted position through the feed-through opening 12 of the counter flange plate 4. ~~and a~~After ~~it~~the locking component 15 has entirely passed through the feed-through opening 12, it is brought into an upright position. Thereafter, the locking component 15 can ~~be moved~~ upwards in order to bring it with its contact side 23 in contact with the inner side 13 of the counter flange plate 4. A tappet 28, where the bottom side of the locking component can be placed, is present underneath the support lugs 24. Furthermore, the angled bridges 25 of the support lugs 24 exhibit a slope such that the distance from the inner side 13 of the counter flange plate 4 increases in the

downward direction. This, ~~for one,~~ enables the insertion of the  
locking component 15 into the inner space of component 2 in the  
shown slanted position. Further, ~~, and on the other hand,~~ in the  
pushed upwards and upright position, the locking component 15 is  
held so close to the inner side 13 of the counter flange plate 4,  
such that after the tappet 28 is placed, it cannot slip off-it.  
The tappet 28 does not obstruct the tight hold position of the  
locking component 15, which is moved upwards by the connection  
bolt 7, which passes through when the flange connection is  
established, due to the sliding slope on its face side.

**[0028]** Thus, the present invention provides novel, useful and  
non-obvious flange connection between a longitudinal beam of a  
vehicle, as a first component, and a carrier element, which can  
be mounted to it, as a second component as described in greater  
detail herein.

**[0029]** Modifications and substitutions by one of ordinary skill  
in the art are considered to be within the scope of the present  
invention, which is not to be limited except by the claims which  
follow.

~~{0030}~~

~~{0030} Modifications and substitutions by one of ordinary skill~~  
~~in the art are considered to be within the scope of the present~~  
~~invention which is not to be limited except by the claims which~~  
~~follow.~~

~~What is claimed is:~~



~~Patent Claims~~ **CLAIMS**

What is claimed is:

1. ~~1.~~ A flange connection between a the face end of ~~the~~ a longitudinal beam of a vehicle as a first component, ~~(1)~~ and a carrier element, ~~such as a crash box, which can be mounted to it in its longitudinal direction, as a second component~~ ~~(2)~~, whereby a flange plate having an outer side ~~(3)~~ ~~is positively arranged at~~ operatively mounted to ~~either the first or second component~~ ~~the~~ ~~one of these two components~~ ~~(1, 2)~~ and a counter flange plate having an outer side ~~(4)~~ operatively mounted to the other of the first or second component ~~at the other component~~, and wherein ~~the~~ ~~these~~ outer side of the flange plate and the outer side of the counter flange plate ~~s~~ ~~(3, 4)~~ can be held tight and in contact to each other ~~one another with their outer sides~~ ~~(5, 6)~~ contacting each other, said flange connection comprising ~~characterized in that further including:~~

τ \_\_\_\_\_

a connection bolt having a wedge slope, and wherein a first end of the connection bolt protrudes from ~~at the outer side~~ ~~(5)~~ of the flange plate ~~(3)~~ protrudes at least one connection bolt ~~(7)~~ ~~that exhibits a wedge slope~~ ~~(9)~~, wherein the wedge slope ~~which stretches~~ extends in the cross direction of said connection bolt from an ~~its~~ upper edge ~~(10)~~ ~~at the~~ an upper side of the ~~locking connection bolt~~ ~~(7)~~ in the a direction toward the flange plate

~~(3)~~, ~~insuch~~ that the counter flange plate ~~(4)~~ exhibits, at the flange plate, ~~(3)~~ a feed-through opening ~~(12)~~ for receiving the connection bolt ~~(7)~~, and wherein ~~that~~ a locking component ~~(15)~~ ~~can be~~ is placed on ~~the~~ an inner side ~~(13)~~ of the counter flange plate ~~(4)~~, wherein in ~~the~~ a connected position, said locking component having a wedge surface ~~(15)~~ surrounds the connection bolt ~~(7)~~ and said ~~establishe~~s a wedge surface ~~(18)~~ ~~that interacts with its~~ is received by the wedge slope ~~(9)~~, and ~~that exhibits at the side opposite this wedge surface; and,~~ ~~(18)~~

a clamping screw ~~(21)~~ that can be tightened against the connection bolt ~~(7)~~.

2. A~~The~~ flange connection as set forth in claim 1, ~~characterized in that,~~ wherein the connection bolt ~~(7)~~ is arranged centrally at the flange plate ~~(3)~~.

3. A~~The~~ flange connection as set forth in claim 1 ~~or 2~~, ~~characterized in that,~~ wherein the connection bolt ~~(7)~~ exhibits a transverse groove ~~(8)~~ formed into the connection bolt ~~(7)~~ in ~~the~~ a radial direction, with ~~the~~ a flank of the groove positioned away from the flange plate ~~(3)~~ forming the wedge slope ~~(9)~~.

4. A~~The~~ flange connection as set forth in claims 1—3, ~~characterized in that,~~ wherein the connection bolt ~~(7)~~ exhibits a square or rectangular cross-section, wherein the connection bolt

has side surfaces, and wherein ~~that~~ one of the side surfaces of the connection bolt ~~(7)~~ forms a contact surface ~~(22)~~ for the clamping screw ~~(21)~~ at the locking component ~~(15)~~, whereby and wherein the wedge slope ~~(9)~~ is located at the side of the connection bolt ~~(7)~~ that is opposite the contact surface ~~(22)~~.

5. A~~The~~ flange connection as set forth in ~~one of the claims 1—4, characterized in that,~~ wherein the locking component ~~(15)~~ has the shape of a closed ring.

6. A~~The~~ flange connection as set forth in claim 5, ~~characterized in that,~~ wherein the locking component ~~(15)~~ has the shape of an angular ring, ~~wherein~~ by the wedge surface ~~(18)~~ is located at a longitudinal bridge ~~(17)~~ at ~~the~~ an inner side of one of the straight ring sections ~~(16)~~.

7. A~~The~~ flange connection as set forth in ~~one of the claims 1—6, characterized in that,~~ further including: a protruding console ~~(19)~~, ~~which exhibits~~ having a threaded hole ~~(20)~~ that receives the clamping screw ~~(21)~~, ~~is formed in one~~ a single piece at the locking component ~~(15)~~ at a the side that lies away from ~~the~~ a contact side of the locking component ~~(23)~~ for the counter flange plate ~~(4)~~.

8. ~~A~~The flange connection as set forth in ~~one of the claims~~  
1--7, ~~characterized in that,~~wherein a width of the opening width  
~~of the feed-through opening (12) in the counter flange plate (4)~~  
is greater than ~~the~~a diameter of the connection bolt ~~(7)~~, and  
wherein ~~that~~ the locking component ~~(15)~~ is held ~~at~~approximate the  
counter flange plate ~~(4)~~ in a movable fashion parallel to ~~it~~the  
inner side ~~(13)~~.

9. ~~A~~The flange connection as set forth in claim 8,  
~~characterized in that,~~wherein at the inner side ~~(13)~~ of the  
counter flange plate ~~(4)~~, support lugs ~~(24)~~ are arranged ~~in a~~and  
protruding fashion that are cranked from the inner side and  
~~reach~~extend behind the locking component ~~(15)~~, and wherein ~~that~~ a  
play necessary for movement is provided between said support lugs  
~~(24)~~ and the locking component ~~(15)~~.

10. ~~A~~The flange connection as set forth in ~~one of the claims~~  
1--9, ~~characterized in that,~~wherein the feed-through opening  
~~(12)~~ of the counter flange plate ~~(4)~~ ~~exhibits~~has a width ~~that is~~  
~~neccessary~~ for guiding the locking component ~~(15)~~ through, in a  
position different from the connected position.

11. ~~A~~The flange connection as set forth in claim 10,  
~~characterized in that,~~wherein the feed-through opening ~~(12)~~ of  
the counter flange plate ~~(4)~~ is square or rectangular, whereby

the width of the feed-through opening ~~(12)~~ in one of the longitudinal or cross directions or in one of the diagonal directions is greater than the outer width of the locking component ~~(15)~~.

12. AThe flange connection as set forth in ~~one of the claims 1—11, characterized in that,~~ wherein the connection bolt ~~(7)~~ is ~~positively arranged at~~ operatively mounted to the flange plate ~~(3)~~ and further including a bead ~~in that~~ arranged around the connection bolt ~~(7)~~ ~~is arranged a bead (26) that~~ and wherein the bead is embossed from the outer side of the flange plate ~~(3)~~, by which ~~the~~ an attachment region ~~(28)~~ of the connection bolt ~~(7)~~ is arranged recessed when compared to ~~the~~ a remaining region of the flange plate ~~(3)~~ in ~~the~~ a direction away from ~~it~~ the outer side ~~(5)~~.

13. AThe flange connection as set forth in ~~one of the claims 1—12, characterized in that,~~ wherein the clamping screw ~~(21)~~ of the locking component, which can be tightened against the connection bolt ~~(7)~~, is accessible from the outer side in ~~its~~ an axial direction at the respective component ~~(1 or 2)~~.

~~Abstract~~ **ABSTRACT OF THE INVENTION**

A flange connection between ~~the~~a longitudinal beam of a vehicle as a first component ~~(1)~~ and a carrier element, which can be mounted to it, as a second component (2), ~~exhibits~~whereby a flange plate ~~(3)~~ atoperatively~~plate~~ operatively mounted to either the ~~one~~first or second component and a counter flange plate (4) ~~atoperatively mounted to the other of the first or second~~ component. ~~For the purpose of~~To holding together tight the flange plate (3) tight to and the counter flange plate, ~~(4)~~ by utilizing a wedge effect is used. A connection bolt having a wedge slope ~~(7)~~ protrudes atfrom the flange plate ~~(3)~~, ~~whereby said~~ connection bolt (7) ~~exhibits a wedge slope (9), which, wherein~~ the wedge slope extends~~stretches~~ in ~~the~~a cross direction. The counter flange plate (4) ~~exhibits~~has a feed-through opening ~~(12)~~ for ~~the~~is connection bolt ~~(7)~~, and wherein a locking component ~~(15)~~ can beis placed at its inner side. In the connected position, ~~the~~is locking component ~~(15)~~ surrounds the locking bolt (7) and establishes a wedge surface ~~(18)~~ that interacts with its wedge slope ~~(9)~~. Furthermore, the locking component ~~(15)~~ exhibits at ~~the~~a side opposite the wedge surface, ~~(18)~~ a clamping screw that can be tightened against the connection bolt ~~(7)~~.